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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/656,065

09/05/2003

Jang-Kun Song

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8333

32605

7590

09/13/2006

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EXAMINER

TON, MINH TOAN T

ART UNIT

PAPER NUMBER

2871

DATE MAILED: 09/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/656,065	Applicant(s) SONG, JANG-KUN	
	Examiner Toan Ton	Art Unit 2871	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 June 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kim et al (US 6603526).

Kim discloses a liquid crystal display comprising (see at least Figure 5 and its disclosure): a first substrate; a gate line and a data line formed on the first substrate and intersecting each other; a plurality of common electrodes separated from the gate line and the data line and making an angle of about 2-30° (overlapping Applicant's claimed range 7-23°) with the gate line; a plurality of pixel electrodes separated from the gate line, the data line, and the common electrodes, extending parallel to the common electrodes, and alternately arranged with the common electrodes; a thin film transistor connected to the gate line, the data line, and the pixel electrodes; a second substrate; and a liquid crystal layer interposed between the first substrate and the second substrate; the distance between one of the plurality of the common electrodes and an adjacent one of the plurality of pixel electrodes is greater than the respective width of the one of the plurality of common electrodes and the adjacent one of the plurality of pixel electrodes [Kim discloses the width(s) of the counter electrode of 4 μm (see at least col. 6, lines 33-34) and the distance between the electrodes of 3 μm (see at least col. 6, lines 53-55)].

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Kim discloses the LCD device comprising the counter electrodes comprising first and second electrodes (e.g., 23a, 23b, see at least Figure 4) making an angle (θ) of about 15-45 degrees with each other.

It is noted that overlapping ranges have been held at least obvious to one of ordinary skill in the art. Further, it would have been have been at least obvious to one of ordinary skill in the art at the time the invention was made to employ a plurality of common electrodes separated from the gate line and the data line and making an angle at least overlapping Applicant's claimed range 7-23° with the gate line for achieving advantages such as high aperture ratio, improved picture quality.

Kim discloses the device comprising a connecting electrode connecting the common electrodes and a common electrode line extending parallel to the gate line and connected to the connecting electrode (see at least Figure 5).

Kim discloses the device comprising a pixel electrode line (e.g., 24a) connecting the pixel electrodes and extending parallel to the data lines.

Kim discloses the pixel electrodes comprising third and fourth electrodes extending parallel to the first and the second electrodes, respectively (see at least Figure 5).

Kim discloses the device comprising a frame connecting the common electrode (see at least Figure 5).

The use of a redundant bus line made from material such as Cr, ITO is common and known in the art for achieving advantages such as replacing/repairing bus line if imperfections exist (e.g., disconnected/shorted bus line) resulting a defective display device. Therefore, it would have been at least obvious to one of ordinary skill in the art at the time the invention was

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made to employ a redundant bus line, as common and known in the art, for achieving advantages such as replacing/repairing bus line if imperfections exist (e.g., disconnected/shorted bus line) that results in a defective display device.

The use of a contact assistant/ohmic layer is common and known in the art for achieving advantages such as improving the reliability of the connection between layers (e.g., semiconductor layer and data line). Therefore, it would have been at least obvious to one of ordinary skill in the art at the time the invention was made to employ to employ a contact assistant/ohmic layer, as common and known in the art, for achieving advantages such as improving the reliability of the connection between layers (e.g., semiconductor layer and data line).

The use of a passivation layer in a thin film transistor array device is common and known in the art for achieving advantages such as providing a sufficient insulation between layers. Therefore, it would have been at least obvious to one of ordinary skill in the art at the time the invention was made to employ a passivation layer, as common and known in the art, for achieving advantages such as a sufficient insulation between layers.

Employing the semiconductor layer having substantially the same planar shape as the data line and the pixel electrode line and the ohmic contact would have been at least obvious to one of ordinary skill in the art at the time the invention was made for achieving advantages such as simplifying/reducing manufacturing steps (i.e., cost-reduction).

Response to Arguments

3. Applicant's arguments filed 06/19/06 have been fully considered but they are not persuasive.

Kim fails to disclose the distance between one of the plurality of the common electrodes and an adjacent one of the plurality of pixel electrodes is greater than the respective width of the one of the plurality of common electrodes and the adjacent one of the plurality of pixel electrodes.

Kim discloses the distance between one of the plurality of the common electrodes and an adjacent one of the plurality of pixel electrodes is greater than the respective width of the one of the plurality of common electrodes and the adjacent one of the plurality of pixel electrodes [Kim discloses the width(s) of the counter electrode of 4 um (see at least col. 6, lines 33-34) and the distance between the electrodes of 3 um (see at least col. 6, lines 53-55)].

Conclusion

4. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

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CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Contact Information

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Toan Ton whose telephone number is (571) 272-2303.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

August 24, 2006


TOAN TON
PRIMARY EXAMINER